

A B S T R A C T

An expandable mandrel is provided for plastic deformation of a tubular from an initial inside radius to an expanded inside radius around a centreline of the tubular is provided. The expandable mandrel includes: a collar having  
5 an outside radius smaller than the initial inside radius; and a plurality of deformable segments extending from the collar wherein each of the deformable segments are deformable to the expanded inside radius and when deformed to the expanded  
10 radius together form an expansion surface having gaps between the deformed segments that are not aligned with the centerline of the tubular.